

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 78-3

WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF SUNNYVALE AND SPECIALITY GARBAGE AND REFUSE INC.  
CLASS II-2 SOLID WASTE DISPOSAL SITE  
SUNNYVALE, SANTA CLARA COUNTY

The California Regional Water quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The City of Sunnyvale and Speciality Garbage and Refuse Inc., hereinafter called the discharger, submitted a Report of Waste Discharge for the existing solid waste disposal site dated October 1, 1975. In addition, a Technical Report dated May 4, 1976, has been submitted for the disposal site.
2. The landfill site, which occupies about 112 acres, is located adjacent to Sunnyvale Creek (a tributary to San Francisco Bay) and north of Caribbean Drive within Sunnyvale City limits, as shown in Attachment A which is incorporated herein and made part of this Order. The land is owned by the City and Speciliality Garbage and Refuse, Inc., is the franchised operator. Currently the site accepts only group 2 and 3 wastes.
3. The landfill site is divided into six separate areas by pipeline easements, the City of Sunnyvale sewage treatment plant, drainage channels, and streets. The underlying soils consists of firm to stiff clays with some layers of silty and sandy soils. The principal useable groundwater table is located below depths of 200 feet which is overlain by a massive and continuous clay zone or aquiclude. Semiperched discontinuous and isolated groundwater of poor quality exist within 30 feet of the ground surface. Certain portions of the perimeter slopes of the landfill need to be upgraded for flood protection. Underground fires exist in some portions of the landfill which may represent a serious hazard to life and property.
4. The beneficial uses of Sunnyvale Creek and San Francisco Bay are:
  - a. Habitat and resting for waterfowl
  - b. Fish habitat
  - c. Recreation
  - d. Esthetic enjoyment
5. Subsequent to the modifications necessary to comply with this Order, this disposal site will meet the criteria contained in the California Administrative Code, Title 23, Chapter 3, Subchapter 15, for classification of a portion of the site as a Class II-2 disposal site to receive Group 2 and 3 wastes.
6. The land within 1000 feet of the site is used for general open space and commercial use.

7. The Board adopted a Water Quality Control Plan for the San Francisco Bay Basin in April 1975 and this Order implements the Water Quality Objectives stated in that Plan.
8. This Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
9. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.
10. This project involves the continued operation of a publicly owned Class II-2 facility with minor alterations to the land. Consequently, this project will not have a significant effect on the environment based upon the exemption provided in Section 15101, Title 14, California Administrative Code.

IT IS HEREBY ORDERED that, The City of Sunnyvale and Speciality Garbage and Refuse Inc. and any other person who operates this site, shall comply with the following:

A. Waste Disposal Specifications

1. The disposal of waste shall not cause pollution or a nuisance.
2. Group 2 wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.
3. Group 1 wastes shall not be stored or deposited at this site.
4. Waste materials shall not be disposed of in any location where they can be carried from the disposal site and discharged into waters of the State.
5. Sewage sludge and high moisture content group 2 wastes shall not be discharged at the site unless authorized in writing by the Executive Officer of this Board.
6. The discharger shall remove and relocate any wastes which are disposed of at this site in violation of the above requirements.

B. Leachate and Drainage Specifications

1. Leachate from Group 2 wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State.
2. Water used during disposal site operation shall be limited to a minimal amount reasonably necessary for dust control and fire suppression.
3. The disposal area shall be protected from any washout or erosion of wastes or covering material, and from inundation, which could occur as a result of floods having a predicted frequency of one in 100 years.

4. Vertical and lateral hydraulic continuity with usable ground waters shall be prevented by the presence of a soil barrier above the groundwater at least five feet in thickness with the top eighteen inches of soil to be compacted to ninety percent compaction or attain a permeability of  $1 \times 10^{-6}$  cm/sec or less.
5. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources shall not contact or percolate through group 2 wastes during disposal operation and for the active life of the site. The perimeter drainage ditches and all other facilities shall be designed to convey maximum anticipated storm runoff, and withstand differential settlement. These facilities shall be constructed over a natural ground or through lined channel or pipes.
6. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Surface water

Floating, suspended, or deposited macroscopic particulate matter or foam;

Bottom deposits or aquatic growths;

Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
  - b. Groundwater

The useable groundwater shall not be degraded as a result of the solid waste disposal operation.
7. The migration of methane gas from the disposal site shall be controlled as necessary to prevent the creation of nuisance.

C. Provisions

1. For the existing disposal areas, the discharger shall comply with all portions of this Order except specifications B.3. and B.5. immediately upon adoption of this Order.
2. For the existing disposal areas the discharger shall comply with the following time schedules to assure compliance with specifications B.3 and B.5.

| <u>Task</u>   | <u>Report of Compliance Due</u> |
|---|---------------------------------|
| Status of compliance if compliance is not achieved  | February 24, 1978               |
| Submit conceptual plan  | July 15, 1978                   |
| Progress Report I   | October 15, 1978                |
| Progress Report II  | October 15, 1979                |
| Full compliance   | December 31, 1980               |
| 3. The discharger(s) shall submit a site closure plan to the Board no later than February 15, 1979, which shall conform to Resolution No. 77-7 adopted by this Board.   |                                 |
| 4. No later than July 15, 1978, the discharger(s) shall submit to the Regional Board the following information.   |                                 |
| a) Methods to be used for extinguishing subsurface fires both for the existing areas and in any other future areas.   |                                 |
| b) A site operation manual, to include the location of current active disposal areas, location of future disposal areas with approximate schedule of utilization and methods of deposition, compaction and covering of wastes.  |                                 |
| c) Slope stability analyses specifying the maximum slope and height of fill which can be developed based on the strength of the underlying soil.  |                                 |
| 5. All plans and technical reports described in Provisions C.2, C.3, and C.4 above shall be prepared by a certified engineering geologist or a registered engineer.   |                                 |
| 6. The discharger shall maintain a copy of the Order at the site or office so as to be available at all times to site operating personnel.  |                                 |
| 7. The discharger shall file with this Board a report of any material change or proposed change in the character, location or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries, contours or ownership of the disposal area. |                                 |

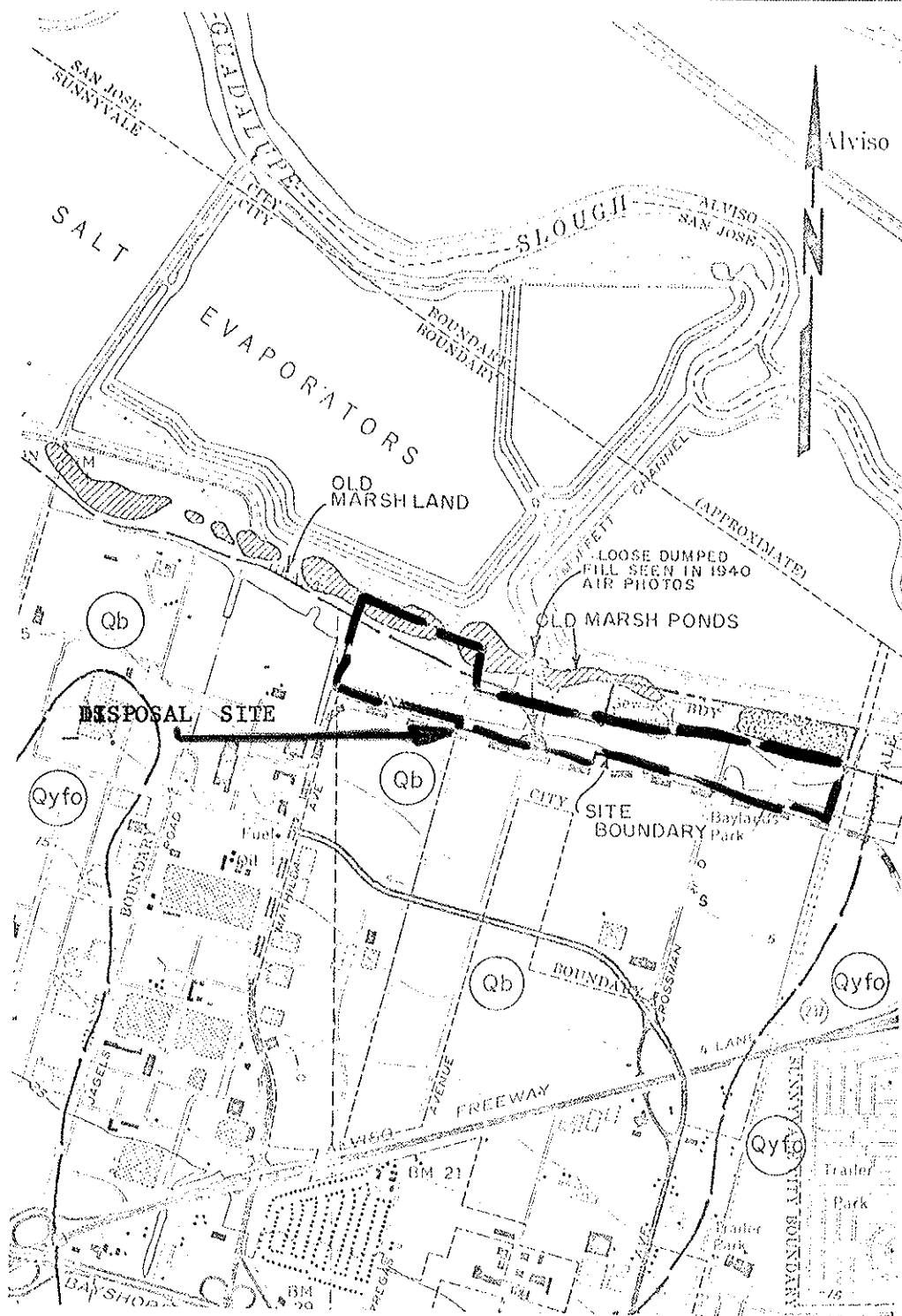
8. This Board considers the property owner to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.
9. The discharger shall file with the Board technical reports on self-monitoring work performed according to the detailed specifications contained in any Monitoring and Reporting Program which may be directed by the Executive Officer.
10. The discharger shall permit the Regional Board:
  - (a) Entry upon premises on which waste are located or in which any required records are kept,
  - (b) Access to copy any records required to be kept under terms and conditions of this Order,
  - (c) Inspection of monitoring equipment or records, and
  - (d) Sampling of any discharge.

I Fred H. Dierker, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 17, 1978.

FRED H. DIERKER  
Executive Officer

Attachments:

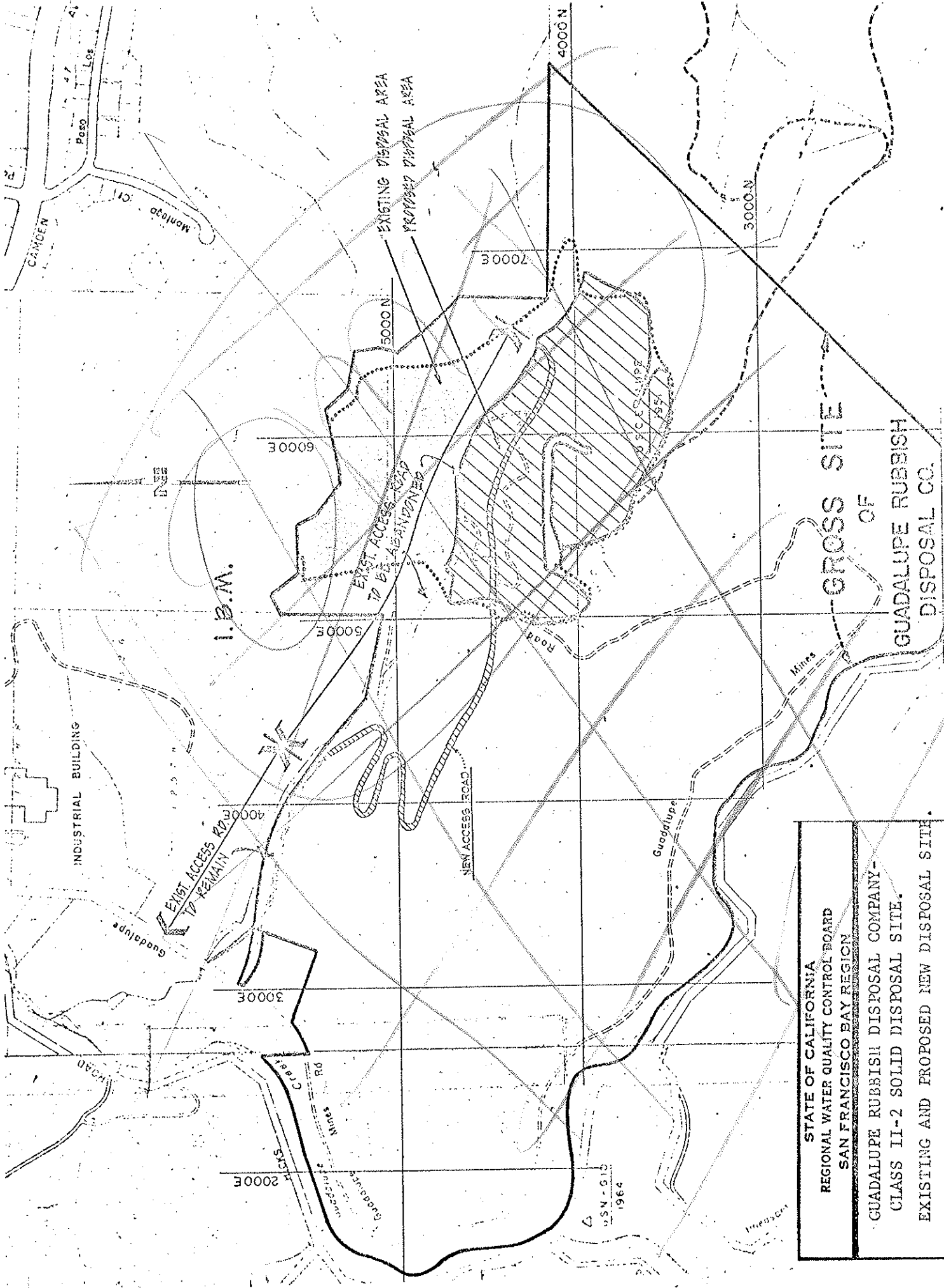
- A - Map
- Resolution No. 77-7



**STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

CITY OF SUNNYVALE, AND SPECIALITY GARBAGE  
AND REFUSE INC: CLASS II-2 SOLID  
WASTE DISPOSAL SITE, SUNNYVALE, SANTA  
CLARA COUNTY  
ATTACHMENT A ORDER NO: 78-3

|                  |              |                  |
|------------------|--------------|------------------|
| <b>DRAWN BY:</b> | <b>DATE:</b> | <b>DRWG. NO.</b> |
|------------------|--------------|------------------|



|  |                 |
|--|-----------------|
| STATE OF CALIFORNIA                      |                 |
| REGIONAL WATER QUALITY CONTROL BOARD     |                 |
| SAN FRANCISCO BAY REGION                 |                 |
| GUADALUPE RUBBISH DISPOSAL COMPANY -     |                 |
| CLASS II-2 SOLID DISPOSAL SITE.          |                 |
| EXISTING AND PROPOSED NEW DISPOSAL SITE. |                 |
| ATTACHMENT A                             | ORDER NO: _____ |

GROSS SITE  
OF  
GUADALUPE RUBBISH  
DISPOSAL CO.

SN-510  
1964

- V. WHEREAS, pursuant to Section 15104 of the California Environmental Quality Act Guidelines, this Resolution applies to minor alterations to land which do not have significant adverse effects on the environment and is therefore exempt from the provisions of the Act.
- VI. THEREFORE BE IT RESOLVED that this Regional Board establishes the following minimum criteria for proper closure and subsequent maintenance of Class II solid waste disposal site:

1. All completed disposal areas shall be compacted and provided with a final cover of at least three feet of clean soil. A lesser thickness of final cover may be allowed upon a demonstration that, due to thorough compaction of refuse or other factors, differential settlement is likely to be minimal. At least one foot of the final cover shall be compacted to attain a permeability no greater than  $10^{-6}$  cm/sec. Exceptions to this requirement may be granted upon a demonstration that equivalent protection against water penetration may be provided by other means.
2. Completed disposal areas shall be graded and maintained to prevent ponding and to provide slopes of at least three percent. Lesser slopes may be allowed if a sewer system or other equivalent means of carrying off surface drainage is provided. Steep areas, surface drainage courses, or other areas subject to erosion shall be provided with a lining, or planted with vegetation, or otherwise designed to prevent such erosion.
3. Slopes shall be designed to minimize the potential for sliding by control of grades, drainage, or other means. Any slides observed within the disposal area shall be promptly stabilized, and the Executive Officer shall be notified immediately upon discovery of a slide.
4. All necessary facilities shall be provided to ensure that leachate from group 2 waste and ponded water containing leachate or in contact with refuse is not discharged to surface waters of the State.
5. The disposal area(s) shall be protected from any washout or erosion and from inundation, which could occur as a result of tides or of floods having a predicted frequency of once in 100 years.
6. All necessary facilities shall be provided to protect usable groundwaters from degradation as a result of leachate discharges or carbon dioxide migration.
7. The migration of methane gas from group 2 waste shall be controlled as necessary to prevent creation of a nuisance.



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

City of Sunnyvale and Speciality Garbage

and Refuse Inc. - Class II-2 Solid Waste

Disposal Site, Sunnyvale, Santa Clara County

ORDER NO. 78-3

CONSISTS OF

PART A

AND

PART B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CITY OF SUNNYVALE AND SPECIALITY  
GARBAGE AND REFUSE INC., CLASS II-2  
SOLID WASTE DISPOSAL SITE, SUNNYVALE,  
SANTA CLARA COUNTY

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, or other methods approved and specified by the Executive Officer of this Regional Board including the methods specified in attached APPENDIX E.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health or a laboratory approved by the Executive Officer. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. Grab sample means a sample collected at any time.

## 2. Standard Observations

### a. Receiving Water - Sunnyvale Creek and Periphery of Disposal Facilities

- (1) Discoloration and turbidity: description of color, source, and size of affected area.
- (2) Odor: presence or absence, characterization, source, and distance of travel.
- (3) Evidence of beneficial water use: presence of water-associated wildlife, fishermen, and other recreational activities in the vicinity of the sampling stations.
- (4) Hydrographic condition:
  - (a) Water and sampling depths.
- (5) Weather condition:
  - (a) Wind - direction and estimated velocity.
  - (b) Precipitation - total precipitation during the previous five days and on the day of observation.

### b. Land Retention or Disposal Area

This applies both to liquid and solid wastes confined or unconfined.

- (1) Determine height of the freeboard at lowest point of dikes confining liquid wastes.
- (2) Evidence of leaching liquid from area of confinement and estimated size of affected area. (Show affected area on a sketch.)
- (3) Odor: presence or absence, characterization, source, and distance of travel.
- (4) Estimated number of waterfowl and other water-associated birds in the disposal area and vicinity.

## D. SCHEDULE OF SAMPLING, ANALYSES, AND OBSERVATIONS

The discharger is required to perform observations, sampling, and analyses according to the schedule in Part B with the following conditions:

## E. RECORDS TO BE MAINTAINED

1. Written records shall be maintained at the landfill site or office and shall be retained for a minimum of 3 years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

- a. Identity of sampling and observation stations by number.

- b. Date and time of sampling and/or observations.
- c. Date and time that analyses are started and completed, and name of personnel performing the analyses.
- d. Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to specific section of Standard Methods is satisfactory.
- e. Calculations of results.
- f. Results of analyses and/or observations.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

- 1. Written reports shall be filed for each calendar month (unless specified otherwise in Part B) by the fifteenth day of the following month. In addition, an annual report shall be filed as indicated in F-1-f. The reports shall be comprised of the following:

- a. Letter of Transmittal:

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the past month and actions taken or planned for correcting violations, such as plant operation modifications and/or plant facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

Monitoring reports shall be signed as follows:

- (1) In the case of corporations, by a principal executive officer at the level of vice-president or his duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates,
- (2) In the case of a partnership, by a general partner, or
- (3) In the case of a sole proprietorship, by the proprietor,
- (4) In the case of a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

b. Compliance Evaluation Summary

Each report shall be accompanied by a compliance evaluation summary sheet prepared by the discharger. The report format will be specified by the Regional Board.

c. Map or Aerial Photograph

A map or aerial photograph shall accompany the report showing sampling and observation station locations.

d. Results of Analyses and Observations

Tabulations of the results from each required analysis specified in Part B by date, time, type of sample, and station, signed by the laboratory director. The report format will be specified by the Regional Board.

e. List of Approved Analyses

- (1) Listing of analyses for which the discharger is approved by the State Department of Health.
- (2) List of analyses performed for the discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be submitted as part of the report).

f. Annual Reporting

By April 1 of each year, the discharger shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain:

1. Tabular and graphical summaries of the monitoring data obtained during the previous year.
2. Comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.
3. A map showing the area in which filling has been completed during prior calendar year.
4. Summary of the groundwater analyses indicating any change in the quality of the groundwater and hydrostatic head.

PART B

I. DESCRIPTION OF SAMPLING STATIONS & SCHEDULE OF SAMPLING, ANALYSES & OBSERVATIONS

A. WASTE MONITORING

1. Monthly, record the total volume and weight of a refuse (in cubic yards and tons) deposited on the site during the month, and the daily average. Report quarterly.
2. Monthly, record the volume of fill completed, in cubic yards, showing the location(s) and dimensions on a sketch or a map. Report Quarterly.

(Weight of the refuse shall be estimated)

B. ON SITE OBSERVATION

| <u>Station</u>       | <u>Description</u>  |
|----------------------|---|
| S-1<br>thru<br>S-'n' | Observation stations located on presently active area or completed portion of the site at grid squares delineated by 500 foot grid network. |

| <u>Station</u>                                   | <u>Frequency of Observation</u>                       | <u>Observations</u>   |
|--|---|---|
| All S<br>Stations in<br>active<br>disposal areas | Weekly throughout the<br>year <u>Report Quarterly</u> | <ol style="list-style-type: none"><li>1. Evidence of ponded water at any point on the disposal site.</li><li>2. Evidence of refuse not confined within the disposal area.</li><li>3. Evidence of erosion and "day-lighted" refuse.</li><li>4. Evidence of waste in contact with pools of surface water.</li><li>5. Evidence of odors presence or absence, the characteristics, intensity, source, distance of travel.</li><li>6. Evidence of leachate leaving the disposal site, and estimated size of affected area.</li></ol> |

All "S" stations must be monitored according to the above described frequency and report quarterly.

C. SEEPAGE AND/OR LEACHATE MONITORING

| <u>Station</u>    | <u>Description</u>  |
|-------------------|---|
| L-1 thru<br>L-'n' | At a point at which discharge occurs from the disposal area(s). Include a map indicating locations of discharge(s). |

| <u>Station</u>    | <u>Type of Sample and Frequency</u>                            | <u>Analyses</u>   | <u>Units</u>        |
|-------------------|--|-------------------|---------------------|
| All L<br>Stations | Grab sample<br>daily during<br>each discharge<br>or occurrence | COD               | mg/l                |
|                   |  | Dissolved sulfide | mg/l                |
|                   |  | Odors             | description         |
|                   |  | Color             | description         |
|                   |  | pH                | electrometric units |
|                   |  | Conductivity      | micromhos/cm        |

A report shall be made by telephone of any seepage or leachate leaving the property immediately after occurrence. A written report shall be filed with this Board within five days and shall contain the following information: (1) Map showing location(s) of discharge (2) flow rate (3) Nature of effect (i.e. discoloration of receiving water, size of affected area, and (4) Corrective measures undertaken.

D. RECEIVING WATER

| <u>Station</u>         | <u>Description</u>   |
|------------------------|--|
| CU-1<br>thru<br>CU-'n' | Located in the receiving water 100 feet upstream from point of discharge.    |
| CD-1<br>thru<br>CD-'n' | Located in the receiving water, 200 feet downstream from point of discharge. |

| <u>Station</u>    | <u>Type of Sample and Frequency</u>                               | <u>Analyses</u>       | <u>Unit</u>         |
|-------------------|---|-----------------------|---------------------|
| All C<br>Stations | Daily, during discharge coincident with sampling at "L" stations. | D.O.                  | mg/l                |
|                   |   | Total Sulfide         | mg/l                |
|                   |   | Dissolved sulfide     | mg/l                |
|                   |   | pH                    | electrometric units |
|                   |   | specific conductivity | micromhos/cm        |
|                   |   | Odors                 | description         |
|                   |   | Color                 | description         |

Note: All L and C stations shall be monitored only if any seepage and/or leachate leaves the disposal area.

E. GROUNDWATER AND PEIZOMETRIC GRADIENT MONITORING

| <u>Station</u>    | <u>Description</u>  |
|-------------------|---|
| G-1 thru<br>G-9   | Shallow groundwater monitoring wells shall be located as shown in table 1. The depth shall be as deep as necessary to determine the level of subsurface water nearest to the ground surface. The sealing of these wells shall be done according to the consultants recommendation dated May 14, 1976. |
| GR-1 thru<br>GR-5 | Leachate monitoring wells shall be located approximately at the central axis of the site, as described in the City's letter dated January 25, 1978.   |

Table 1 Location of the groundwater wells.

| <u>Monitoring Well No.</u> | <u>Near Test Boring No.</u> |
|----------------------------|-----------------------------|
| G-1                        | 20                          |
| G-2                        | 5                           |
| G-3                        | 6                           |
| G-4                        | 8                           |
| G-5                        | 10                          |
| G-6                        | 13                          |
| G-7                        | 15                          |
| G-8                        | 18                          |
| G-9                        | 3                           |

TYPE OF SAMPLING AND ANALYSES

| <u>Station</u>   | <u>Type of Sample and Frequency</u>   | <u>Analyses</u>                               | <u>Units</u>                                    |
|------------------|---------------------------------------|---|---|
| All GR Stations  | Observation quarterly throughout year | Leachate or water level                       | feet  |
| All "G" Stations | Grab sample quarterly throughout year | Color<br>water level<br>chloride<br>COD<br>pH | visual<br>feet<br>mg/l<br>mg/l<br>electrometric |
|                  |                                       | Nitrate                                       |   |
|                  |                                       | Nitrogen as N                                 | mg/l  |
|                  |                                       | Electrical                                    |   |
|                  |                                       | Conductivity                                  | micromhos/cm                                    |
|                  |                                       | Total Kjeldahl nitrogen (as N)                | mg/l  |

All "GR" and "G" stations shall be reviewed after one year of analyses. Prior to taking grab samples of the "G" well, the well water must be pumped minimum of two minutes.



I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in the Regional Board Order No. 78-3.
2. Has been ordered in writing by the Executive Officer to be implemented on the date ordered as shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from either the Executive Officer or the discharger, and will be revised upon written agreement of the Executive Officer and the discharger.

FRED H. DIERKER  
Executive Officer

Date Ordered February 6, 1978

Attachment:  
Appendix E